San Francisco Bay Conservation and Development Commission
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February 8, 2019

Application Summary: Alameda Landing Waterfront Mixed-Use Development

(For Commission consideration on February 21, 2019)

BCDC Permit Application Number: 2018.004.00
Application Filed Complete: February 6, 2019
Deadline for Commission Action: May 7, 2019
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Summary

Applicants: Catellus Alameda Development, LLC and the Successor Agency to the Community Improvement Commission of the City of Alameda

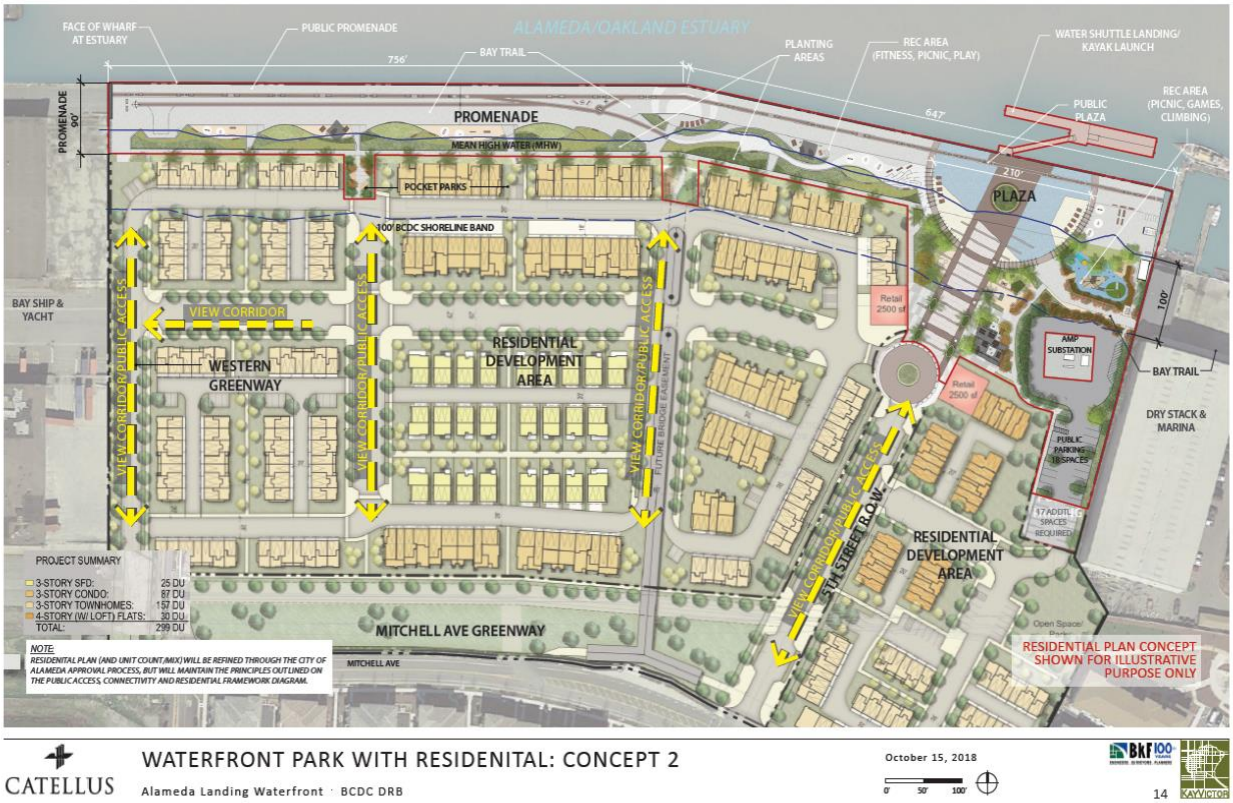
Location: In the Bay and within the 100-foot shoreline band, at 300 A Avenue, in the City of Alameda, Alameda County (Figure 1).

Figure 1. Aerial View of Project Site

PROJECT FAST FACTS

- 300 to 400 Residential Units (Approximately 50 Units in Shoreline Band)
- 5,000 Square Feet Retail
- 615 to 975 Residents & Employees
- Reuse Historic Wharf as 4.6-acre Public Waterfront Park
    - Promenade, Plaza, Bay Trail, Pocket Parks, Parking, Dock & Kayak Launch
- Western Greenway Connects Waterfront Park to Surface Streets
- Five View Corridors
- Total Bay Fill: 4,594 square feet, 72 cubic yards
- Total New Public Access: 5.43 acres (24% of 22.8-acre site)

Figure 2. Project Overview – Proposed Residential Concept and Waterfront Park



Proposed Project: The proposed "Alameda Landing Waterfront" project would develop a mixed-use neighborhood and waterfront park on a 22.8-acre formerly industrial site. The project would include construction of up to 400 residential units, approximately 5,000 square feet of commercial and retail uses, and associated streets, utilities, and infrastructure. The residential portions of the project would be built in two phases, over approximately six years. At build-out, approximately 600 to 960 residents and 15 retail employees would use the site daily, in addition to members of the public. While the majority of the residential and retail uses will be developed outside of the Commission's permitting jurisdiction, approximately 50 residential units would be constructed within the 100-foot shoreline band.

The project also involves the construction and ongoing in-kind maintenance of an approximately 4.6-acre waterfront park on top of and adjacent to an existing concrete wharf structure. The park would include a public promenade, plaza, pocket parks, and public parking. An approximately 1,475-foot-long segment of the San Francisco Bay Trail would be constructed through the promenade and plaza areas, and a 7-foot-wide pedestrian path would be constructed along the inland edge of the waterfront park. Seating, lighting, artwork, bicycle parking, shade structures, kayak storage, picnic areas, signage, and other public access improvements would be installed within the waterfront park. A floating dock with areas for a public boat dock, kayak launch, and water taxi launch would be constructed in the Bay. To provide inland connections to the shoreline, the project would include an 0.83-acre "Western Greenway" connecting the waterfront park to surface streets on the western edge of the property, as well as five dedicated view corridors through the site to the Bay, including a view corridor along Fifth Street that would align with Broadway in Oakland.

Site preparation work would also be conducted as part of the construction of the residential neighborhood and waterfront park, including removal of existing warehouses, demolition of a portion of an existing concrete wharf that would be backfilled with soil, and repairs to the wharf and piles.

Issues Raised: The staff believes that the application raises four primary issues for the Commission to consider:

(1) **Bay Fill:** Is the project consistent with the Commission's law and policies on allowable Bay fill?

(2) **Public Access:** Would the project provide the maximum feasible public access consistent with the project, in accordance with the McAteer-Petris Act and Bay Plan policies on Public Access? Would it continue to provide maximum feasible public access in the future given anticipated sea level rise?

(3) **Recreation:** Is the project consistent with Bay Plan policies on Recreation?

(4) **Appearance, Design, and Scenic Views:** Is the project consistent with Bay Plan Policies on Appearance, Design, and Scenic Views?

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Project Location

Site Description and Existing Use. The project site is located at the north waterfront of the City of Alameda, in Alameda County. The site is located across the Alameda–Oakland Estuary from Oakland's Jack London Square, at the terminuses of Fifth and Bette Streets. The project is bound by: Alameda–Oakland Estuary to the north; a wharf and warehouse facilities designated for commercial maritime-industrial use to the west; a residential neighborhood, the Posey Tube entrance and a Target department store to the south; and a boat storage and marina facility and restaurant to the east (Exhibit B). Immediately southwest of the site is the City-owned Estuary Park and a large stormwater retention basin.

The 22.8-acre project site is a former industrial area that was developed as part of the northern portion of the U.S. Navy's Fleet and Industrial Supply Center Annex in 1966. The Navy ceased use of the site in 1998 and subsequently transferred ownership of the property to the City of Alameda. The site includes a pile-supported, approximately 150-foot-wide concrete wharf which runs along the site's approximately 1,400-foot-long shoreline, and an upland area extending approximately 650 feet between the wharf and the public road. The wharf was constructed in 1944 to support heavy rail and crane loading, and thus pre-dates the Commission. The wharf at the project site is not in active use. The site contains two 72,000-square-foot warehouse buildings, and a portion of the site inland of the wharf is used to stockpile soil. A portion of the wharf directly west of the project site, owned by Bay Ship & Yacht, includes two large warehouse buildings that are actively in use by maritime-industrial businesses. In 2017, BCDC Permit No. ANOI2017.010.00 authorized removal of a narrow (5-foot-wide by 156-foot-long) portion of the wharf to create a structural separation between the project site and the adjacent Bay Ship & Yacht site. A stormwater outfall structure is located next to the wharf cut, underneath the wharf deck.

An approximately 4,500-square-foot Alameda Municipal Power (AMP) electrical riser substation is located on the eastern side of the project site, near an existing public access path and waterfront park (the Mariner Square Waterfront Esplanade, authorized by BCDC Permit No. 1972.005.11). The shoreline path ends at its intersection with the project site. While the

path is not a designated segment of the San Francisco Bay Trail (Bay Trail) because it is not part of a continuous trail network, it is anticipated to become the designated Bay Trail in the future as the shoreline is redeveloped.

Project Description

Project Details: The applicants, Catellus Alameda Development LLC and the Successor Agency to the Community Improvement Commission of the City of Alameda, propose the following activities:

In the Bay:

1. **Wharf and Pile Repairs.** Conduct wharf repairs over an approximately 91,571-square-foot area and repair approximately 190 piles, resulting in a net increase of approximately 72 cubic yards of Bay fill;
2. **Public Dock.** Construct, use, and maintain in-kind an approximately 4,594-square-foot dock system consisting of a 6-foot-wide gangway, fixed pier with handrails, and floating dock with an approximately 1,381-square-foot area for a public dock, an approximately 1,092-square-foot area for a water shuttle launch, and an approximately 1,080-square-foot area for a kayak launch;
3. **Waterfront Park.** Construct, use, and maintain in-kind an approximately 92,028-square-foot (2.11-acre) portion of an approximately 200,234-square-foot (4.6-acre) waterfront park on top of an existing concrete wharf structure, consisting of:
    a. **Waterfront Promenade.** An approximately 77,500-square-foot (1.78-acre) portion of an approximately 131,286-square-foot (3.01-acre), 90-foot-wide waterfront promenade (the remainder of which is within the 100-foot shoreline band); and
    b. **Waterfront Plaza.** An approximately 14,528-square-foot (0.33-acre) portion of an approximately 22,311-square-foot (0.51-acre) waterfront plaza (the remainder of which is within the 100-foot shoreline band).
4. **Waterfront Park Amenities.** Construct, use, and maintain in-kind public access and other features on and adjacent to the waterfront promenade and plaza, including portions of an approximately 1,475-linear-foot, minimum 18-foot-wide trail, approximately 42-inch-high railings, benches and seating, lawn areas, public artwork, portions of pergola shade structures, trellis and shade structures, bicycle lockers, bicycle racks, exercise stations, recreational courts and outdoor games, enclosed kayak storage, a fish cleaning station, picnic areas with tables and barbeque pits, interpretive signage, telescopes, water shuttle signage, an emergency vehicle turnaround area, approximately 42,000-47,000 square feet of plantings, and low walls associated with planting areas; and

5. **Interface with Neighboring Property.** Construct, use, and maintain in-kind a 73-square-foot portion of a 215-square-foot, 5-foot-wide grate cover (the remainder of which is within the 100-foot shoreline band), a railing, and a 7-foot-high vertical picket-style fence at the western edge of the waterfront promenade adjacent to the neighboring Bay Ship & Yacht property.

Within the 100-foot shoreline band:

1. **Site Preparation Activities.** Demolish two 72,000-square-foot warehouse buildings, and cut and remove an approximately 94,694-square-foot portion of an existing wharf deck and backfill with soil;
2. **Geotechnical Improvements.** Construct a Deep Soil Mix (DSM) buttress and facing wall at and adjacent to the wharf deck cut line;
3. **Residential Development.** Construct, use, and maintain in-kind approximately 30,500 square feet (0.7 acres) of residential development, consisting of approximately 50 housing units and associated utilities, within the following parameters: (1) Residential buildings must have a minimum 10-foot-wide setback from the inland boundary of the waterfront park; (2) Residential buildings must be a minimum of 100 feet from the Bayward edge of the wharf deck, however, minor projections, overhangs, access features, and related elements may encroach into the 10-foot-wide building setback from the boundary of the waterfront park; (3) Pedestrian connections to the shoreline must be provided throughout the neighborhood along the internal street network; (4) Primary entrances to the residential housing units shall face onto the waterfront promenade and plaza; (5) All structures shall have a maximum roof eave height of 60 feet; (6) Substantial fences and decks shall not be permitted on the front (Bayward) side of the housing units; (7) Final design of the residential development shall be compatible with the proposed view corridors and pocket parks; and (8) A landscaped area north of the residential buildings and adjacent to the waterfront park shall be completed at the time of construction of the waterfront park.
4. **Residential Roadway.** Construct, use, and maintain in-kind approximately 20,000 square feet of a vehicular roadway associated with the residential development;
5. **Waterfront Park.** Construct, use, and maintain in-kind an approximately 67,083-square-foot (1.54-acre) portion of an approximately 200,324-square-foot (4.6-acre) waterfront park on top of an existing concrete wharf structure, consisting of:
    a. **Waterfront Promenade.** An approximately 53,786-square-foot (1.23-acre) portion of an approximately 131,286-square-foot (3.01-acre), 90-foot-wide waterfront promenade (the remainder of which is in the Bay);

b. **Waterfront Plaza.** An approximately 7,783-square-foot (0.18-acre) portion of an approximately 22,311-square-foot (0.51-acre) waterfront plaza (the remainder of which is in the Bay);

c. **Pocket Parks.** Two approximately 40-foot-wide pocket parks, one approximately 2,350 square feet and the other approximately 2,914 square feet; and

d. **Parking Lot.** An approximately 250-square-foot portion of a parking lot.

6. **Waterfront Park Amenities.** Construct, use, and maintain in-kind public access and other features within the waterfront park, including portions of an approximately 1,475-linear-foot, minimum 18-foot-wide trail, seating, public artwork, children's play equipment and surfaces, portions of pergola shade structures, bicycle racks, recreational courts and outdoor games, a public restroom with exterior shower, a dog fountain, signage, plantings, and low walls associated with planting areas and the Bay Trail;

7. **Pedestrian Sidewalk.** Construct, use, and maintain in-kind a minimum 7-foot-wide pedestrian sidewalk no less than ten feet from the Bayward edge of the foundations of the residential units; and

8. **Western Greenway.** Construct, use, and maintain in-kind an approximately 3,575-square-foot portion of an approximately 36,384-square-foot, minimum 50-foot-wide public access corridor ("Western Greenway") with a 12-foot-wide trail and a portion of a residential road.

Bay Fill: The proposed project would result in the placement of approximately **4,594 square feet of new floating and cantilevered fill** in the Bay, through the installation of a dock system consisting of a public dock, shuttle launch platform, and kayak launch platform. In addition, the project would result in approximately **72 cubic yards of new solid Bay fill** through the repair of piles supporting the existing wharf structure.

While the construction of portions of the waterfront promenade and plaza, and installation of certain public access amenities, would occur in the Commission's Bay jurisdiction, these activities would be conducted on top of the existing concrete wharf structure. As the wharf structure predates the establishment of the Commission, and does not require substantial retrofits, the Commission's practice has been to review development on overwater structures such as this under the same policies that it would for development within the 100-foot shoreline band (see Staff Analysis A.2, below). Therefore, these activities are not included in the calculations of new Bay fill.

Public Access: The proposed project would result in the construction of approximately **5.43 acres of new public access areas**. Public access areas are generally available to the public for unrestricted access for walking, bicycling, sitting, viewing, fishing, picnicking, swimming, boating, and related purposes. The project

involves reuse of an existing concrete wharf and adjacent areas as an approximately 200,234-square-foot (4.6-acre) waterfront park. The park would include a public promenade, plaza, pocket parks, and public parking. A public boat dock, kayak launch platform, and water taxi launch platform would be constructed in the Bay. In addition, the project would include an approximately 36,384-square-foot (0.83-acre) greenway ("Western Greenway") connecting the waterfront park to surface streets on the western edge of the property. In total, the project results in approximately 236,618 square feet (5.43 acres) of new public access, of which 167,280 square feet (3.84 acres) are within the Commission's permitting jurisdiction and 69,338 square feet (1.59 acres) are outside the Commission's jurisdiction. The public access areas would be permanently guaranteed for public uses and maintained through funds generated by a Municipal Service District established for the project.

Table 1. New Public Access Areas (Acres)

Type of Public Access	**Within BCDC's Jurisdiction (Acres)**	**Outside BCDC's Jurisdiction (Acres)**	**Total (Acres)**
Waterfront Park	**3.76**	**0.84**	**4.60**
Waterfront Promenade	3.01	0	3.01
Waterfront Plaza	0.51	0	0.51
Public Dock	0.11	0	0.11
Pocket Parks (2)	0.12	0	0.12
Fifth Street Entry, Parking, and Circulation	.006	0.84	0.85
Western Greenway	**0.08**	**.75**	**0.83**
Total Project	**3.84**	**1.59**	**5.43**

Table 2. New Public Access Areas (Square Feet)

Type of Public Access	**Within BCDC's Jurisdiction (sf)**	**Outside BCDC's Jurisdiction (sf)**	**Total (sf)**
Waterfront Park	**163,705**	**36,529**	**200,234**
Waterfront Promenade	131,286	0	131,286
Waterfront Plaza	22,311	0	22,311
Public Dock	4,594	0	4,594
Pocket Parks (2)	5,264	0	5,264
Fifth Street Entry, Parking, and Circulation	250	36,529	36,779
Western Greenway	**3,575**	**32,809**	**36,384**
Total Project	**167,280**	**69,338**	**236,618**

Schedule and Cost: Catellus proposes to begin demolition, surcharge and soils remediation, and other site preparation work as early as February 2019. The residential development and public access improvements would occur over two phases, with the Phase 1 improvements planned to commence in June 2019 (Exhibit F). The construction of public access improvements would progress continuously from the Phase 1 area into the Phase 2 area. The floating dock is planned to be installed in mid-2020, pending approvals from resource agencies. Project completion for the waterfront park and initial residential improvements is anticipated in April 2021. Final buildout of the residences is anticipated to be complete in approximately late 2025. The estimated project cost is $157,000,000.

Staff Analysis

Issues Raised. The staff believes that the application raises four primary issues: (1) whether the project would be consistent with the Commission's law and policies on allowable Bay fill; (2) whether the proposed public access is the maximum feasible consistent with the project, consistent with the McAteer-Petris Act and Bay Plan policies on Public Access and Climate Change, including related to sea level rise; (3) whether the proposed project is consistent with Bay Plan policies on Recreation; and (4) whether the proposed project is consistent with Bay Plan Policies on Appearance, Design, and Scenic Views.

A. **Bay Fill.** Section 66605 of the McAteer-Petris Act provides that further filling of the Bay may be authorized by the Commission only when public benefits from fill clearly exceed public detriment from the loss of water areas and is limited to water-oriented uses or minor fill for improving shoreline appearance or public access to the Bay. Additionally, fill of the Bay should be authorized only if: no alternative upland location is available for such purpose; the water area authorized to be filled is the minimum necessary to achieve the purpose of the fill; harmful effects to the Bay and its waters are minimized; the fill is constructed in accordance with sound safety standards; the fill establishes, to the maximum extent feasible, a permanent shoreline; and, the applicant has valid title to the property in question.

    1. **Dock System and Pile Repairs.** The proposed project involves construction of a floating dock system that would include a public dock, shuttle launch platform, and kayak launch platform, which results in filling approximately 4,594 square feet of the Bay. The footprint of the dock system would be minimal and of a size appropriate for the anticipated level of use. No dredging would be required, and the design of the launch would not require installation of piles. The dock system would provide water-oriented recreational opportunities for a variety of users in a location where no water access currently exists. The proposed project would also include repairs to existing wharf piles that are necessary to maintain functionality and safety of the public waterfront park over time, which would result in 72 cubic yards of new Bay fill beneath the existing wharf structure.

The fill would provide and support public access facilities for which public benefits of the fill would exceed any detriment. No upland alternative location exists for floating boat, shuttle, and kayak launches, or for the repair of existing piles in the Bay. The Successor Agency to the Community Improvement Commission of the City of Alameda has legal ownership of the area where the proposed work will occur.

Resource agency approvals for the proposed in-water work were not received as part of the application, but would be required prior to project construction. The application was sent to state and federal resource agencies in advance of the Commission meeting at which this project is agendized, pursuant to the Commission's regulations, and no comments were received by Commission staff.[1] The proposed in-water work would be a minor portion of the overall project, and is not necessary prior to the construction of the remainder of the public access improvements on top of and adjacent to the existing wharf structure.

2. **Wharf Structure Seismic Safety and Sea Level Rise.** In addition to Section 66605(e) of the McAteer-Petris Act regarding the seismic and flooding standards by which fill is designed and constructed, the Bay Plan contains related policies. Bay Plan Safety of Fills Policy No. 1 states, in part, "[t]he Commission has appointed the Engineering Criteria Review Board consisting of geologists, civil engineers specializing in geotechnical and coastal engineering, structural engineers, and architects competent to and adequately empowered to:…establish and revise safety criteria for Bay fills and structures thereon…[and]…review all except minor projects for the adequacy of their specific safety provisions, and make recommendations concerning these provisions…." The Bay Plan Safety of Fills Policy No. 4 states, in part, that "[a]dequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project….New projects on fill or near the shoreline should…be built so the bottom floor level of structures will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity."

   Further, Bay Plan Climate Change Policy No. 2 states, in part, "[w]hen planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared by a qualified engineer and should be based on the estimated 100-year flood elevation that takes into account the best estimates of future sea level rise and current flood protection and planned flood protection that will be funded and constructed when needed to provide protection for the proposed project or shoreline area. A range of sea level rise projections for mid-century and end-of-century based on the best scientific data available should be used in the risk assessment. Inundation maps used for the risk assessment should be prepared

[1] While the federal resource agencies, including the National Marine Fisheries Service and U.S. Fish and Wildlife Service were given the opportunity to provide comments on this project to Commission staff, the federal government shutdown from December 22, 2018 to January 25, 2019 overlapped with this review period, and federal agency review of this project may have been impacted.

under the direction of a qualified engineer. The risk assessment should identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices." Climate Change Policy No. 3 states, "[t]o protect public safety and ecosystem services, within areas that a risk assessment determines are vulnerable to future shoreline flooding that threatens public safety, all projects…should be designed to be resilient to a mid-century sea level rise projection. If it is likely the project will remain in place longer than mid-century, an adaptive management plan should be developed to address the long-term impacts that will arise based on a risk assessment using the best available science-based projection for sea level rise at the end of the century."

The site includes a pile-supported, approximately 150-foot-wide concrete wharf which runs along the site's approximately 1,400-foot-long shoreline, and an upland area extending approximately 650 feet between the wharf and the public road. Approximately 92,028 square feet of the wharf structure is over water (bayward of MHW), with the remainder over land. The wharf structure was constructed in approximately 1944, prior to the establishment of the Commission. For overwater structures that predate the Commission and that have not undergone significant structural repairs or modified to the extent that the work would significantly extend the life of the structure, the Commission's practice has been to review development on these overwater structures under the same policies that it would for development within the 100-foot shoreline band. In evaluating the applicable policies for the proposed project, Commission staff first considered the safety of the existing wharf structure and whether the structure would require significant retrofits that would substantially extend the life of the project, which would thus necessitate the consideration of proposed work to and on top of the wharf structure under the policies applicable to the Commission's Bay jurisdiction.

The applicants indicate that a 100% underwater and above-water inspection was conducted by the project's design engineers, to assess the condition of the concrete wharf and piles. The application states that: "The design team has concluded that the structure shows wear consistent with its age, considering there has been little or no maintenance on the structure during its nearly 75-year lifetime." While damage has occurred to specific piles as well as localized areas of the wharf deck and soffit, and a maintenance program is planned, the applicants have stated that: "The structural integrity of the wharf is such that the maintenance program could be rolled out over the next decade." In a June 7, 2018 letter, the structural engineer also indicated that the wharf and pile repairs can take place independently of soil improvements, and that the pile repairs are "intended to repair components to their predamage [from long-term exposure to water] state, and they do not provide strengthening or add capacity above the original design." Wharf and pile maintenance would include "filling in isolated cracks with new marine-grade grout and putting protective concrete jackets around selected piles," and the applicants have indicated that no subtstantial retrofits are needed. Redundancy of piles beneath the wharf also provides extra capacity for the wharf structure, and thus contributes to the minor nature and timing of pile repairs.

Commission staff also sought the advice of the Commission's Engineering Criteria Review Board (ECRB) on whether the wharf and pile repair program would be sufficient as part of a long-term maintenance plan for normal wear-and-tear, or whether pile replacement or more substantial retrofits should be required prior to use of the wharf for public access. The ECRB indicated that Catellus was following appropriate criteria for the safety of the wharf, and concurred with the applicants that major retrofits did not appear to be needed to meet the structural criteria and that pile repairs appeared to be appropriate over a longer time frame rather than being necessary before public use of the wharf.

Commission staff also sought the advice of the ECRB on the impacts of sea level rise on the wharf structure. In a November 1, 2018 letter that was presented to the ECRB by the applicants, the project's structural engineer stated: "Using varying levels of sea level rise and our design wave, we determined that the largest vertical uplift loads from waves impacting the underside of the deck would not overcome the weight of the deck and that seismic loads will continue to govern for the wharf structure." The ECRB again indicated that Catellus was following appropriate criteria regarding wharf performance under sea level rise, and that sea level rise would likely have limited impacts on the safety of the wharf structure itself. Sea level rise is discussed further in Section B.3 below, as it relates to specific features and adaptation of the public access.

Because the wharf does not require substantial retrofits that would significantly extend the life of the structure in order to construct the project herein, either to provide the authorized uses or to address the impacts of sea level rise on the wharf structure, the project components provided on top of the wharf structure have been analyzed under the same policies that they would for development within the 100-foot shoreline band.

Bay Plan Safety of Fills Policy No. 3 states, "[t]o provide vitally-needed information on the effects of earthquakes on all kinds of soils, installation of strong-motion seismographs should be required on all future major land fills" and "...the Commission encourages installation of strong-motion seismographs in other developments on problem soils and in other areas recommended by the U.S. Geological Survey, for purposes of data comparison and evaluation."

The applicants have proposed a draft seismic instrumentation plan, which was presented to the ECRB, and is being finalized in consultation with the California Strong Motion Instrumentation Program in the Department of Conservation's California Geological Survey.

The Commission should determine whether the project is consistent with its laws and policies regarding Bay fill.

B. **Maximum Feasible Public Access.** Section 66602 of the McAteer-Petris Act states, in part, "…existing public access to the shoreline and waters of the…[Bay] is inadequate and that maximum feasible public access, consistent with a proposed project, should be provided." In addition, the Bay Plan policies on public access state, in part, "[a] proposed

fill project should increase public access to the Bay to the maximum extent feasible…" and that "…maximum feasible access to and along the waterfront and on any permitted fills should be provided in and through every new development in the Bay or on the shoreline…"

1. **Public Access Impacts and Benefits.** In assessing whether a proposed project increases public access to the Bay and its shoreline, the Commission considers existing conditions at the project site, the proposed public access improvements provided by a project, and the existing and future demand for public access facilities. The McAteer-Petris Act and Bay Plan policies must be read in light of court decisions that have established 1) that a public agency must show a nexus, or essential connection, between any requirements included as a condition of a permit and the public burden created by a private development project, and 2) that the condition must be roughly proportional to the burden.

   In this case, the Commission must evaluate the demand for public access that the Alameda Landing Waterfront project will generate and its anticipated impact on the existing and proposed public access at and near the project site.

   a. **Anticipated Public Access Demand.** The housing, employment, and population growth associated with the Alameda Landing Waterfront project is expected to generate greater demand for public access on the Bay shoreline at and in the vicinity of the project site. At buildout, the applicants indicate that the Alameda Landing Waterfront project is anticipated to accommodate approximately 600 to 650 residents (assuming an average of 2 persons per household and between 300 to 320 residential units) and 15 retail employees. However, the Master Plan for the Alameda Landing Waterfront project allows for up to 400 residential units at this site, which could result in approximately 800 new residents (assuming an average of 2 persons per household) to approximately 960 new residents (assuming the City of Alameda average household size of 2.4 persons per household). These estimates do not reflect short-term visitors at the waterfront park or to the retail and commercial establishments. No estimate has been provided as to the number of shoppers and visitors to the site anticipated as a result of the 5,000 square feet of retail and commercial space.

   b. **Existing and Nearby Public Access.** No public access exists at the project site, which is not formally accessible to the public. Other public access exists nearby, however, outside the boundaries of the project site. These facilities can reasonably be expected to see an increased level of use as a result of the addition of the new residents, employees, and visitors generated by the Alameda Landing Waterfront project. An existing public access path and waterfront park (the Mariner Square Waterfront Esplanade, authorized by BCDC Permit No. 1972.005.11) is located adjacent to the project site to the east. The public access path on the neighboring property ends at its intersection with the project site. While the path is not a designated segment of the San Francisco Bay Trail (Bay Trail) because it is not part of a continuous trail network, it is anticipated to become the designated Bay Trail in the future as the shoreline is redeveloped.

c. **Future Public Access.** The City of Alameda is exploring the concept of a future bicycle and pedestrian bridge that would span the Oakland–Alameda Estuary, connecting the project site or another nearby location to Jack London Square in the City of Oakland. The application states: "The City of Alameda intends to request an easement (width TBD) as shown on the Project Plan. The home-builder will fully incorporate the easement requirements into its development plan. The current width and location have been depicted in the Project Plan. It is currently envisioned that the bridge will pass over the waterfront promenade at approximately 35' high, without the need for footings, piles, or other access-related obstructions. No pedestrian or bicycle access will be hindered by the bridge." The final bridge location would be allowed in one of the established north-south view corridors.

d. **Proposed Public Access Areas.** The Alameda Landing Waterfront project involves construction of approximately 5.43 acres of public spaces, including a waterfront promenade, plaza, dock system, pocket parks, and greenway. This represents approximately 24 percent of the 22.8-acre project site.

Within the Commission's jurisdiction, the project would involve construction of a waterfront park on and adjacent to an historic concrete wharf, and a portion of the "Western Greenway" corridor providing connection from the waterfront park to surface streets.

The following is a brief summary of newly constructed public access areas for the proposed Alameda Landing Waterfront project:

- **Waterfront Park.** An approximately 4.6-acre waterfront park would be constructed along the waterfront, on and adjacent to an existing historic wharf structure. The park would include an approximately 90-foot-wide, 3.01-acre promenade and an approximately 0.51-acre plaza. A minimum 18-foot-wide segment of the Bay Trail would run along the waterfront as part of both the promenade and plaza. A variety of public amenities would be provided within the promenade and plaza areas, including seating, public artwork, shade structures, bicycle parking, recreational courts, kayak storage, picnic areas, signage, and plantings. Two pocket parks, totaling approximately 5,264 square feet, would be constructed at the interface of the residential development with the waterfront promenade, each aligning with a north-south view corridor. An approximately 4,594-square-foot dock system would be constructed in the Bay, consisting of a public dock, kayak launch platform, and water shuttle launch platform. A 35-space parking lot would be located near the existing AMP substation, with 18 designated public parking spaces (16 standard, 2 ADA-accessible) within the waterfront park.

- **Western Greenway.** An approximately 0.83-acre, 50-foot-wide public access corridor would be constructed along the western edge of the property, providing physical and visual public access connections between the waterfront promenade and Bay Trail to the north and Mitchell Avenue to the south. The Western Greenway would contain a trail according to Bay Trail design standards (minimum 12 feet wide), in addition to a portion of a residential road that could accommodate pedestrian and bicycle traffic when not in use by vehicles. The Western Greenway corridor would also serve as a view corridor.

e. **Public Access Phasing.** The residential development and public access improvements would occur over two phases, with the Phase 1 improvements planned to commence in June 2019 (Exhibit F). The construction of public access improvements would progress continuously from the Phase 1 area into the Phase 2 area. The floating dock is planned to be installed in mid-2020, pending approvals from resource agencies.

2. **Comparable Projects Approved by the Commission.** The Commission considers its previous actions on comparable projects to help partially inform a decision about whether public access proposed as part of a project represents the maximum feasible scope and type consistent with the project. The Commission has approved several residential or mixed-use development projects at a scale relatively similar to the proposed Alameda Landing Waterfront project (Table 1): the Blu Harbor Residential Development, the Signature at the Estuary Residential Development, and the Hercules Bayfront Creekside Apartments.

   - The Blu Harbor Residential Development (BCDC Permit No. 2014.004.00), a 411-unit residential development project at the confluence of Smith Slough and Redwood Creek, in the City of Redwood City, San Mateo County, provided public access improvements on areas totaling approximately 2.55 acres of a 13.81-acre project site, or 18 percent of the project site.

   - The Signature at the Estuary Residential Development (BCDC Permit No. 2003.003.00), a 100-unit condominium residential development project in the City of Oakland, Alameda County, provided 1.31 acres of public access at a 4.17-acre site, or 31 percent of its total project area. An 8,826-square-foot area of the total public access was provided as a permanently guaranteed open-water area, with the remaining 1.04 acres (25 percent of the total project area) provided as dedicated public access within the 100-foot shoreline band.

   - The Hercules Bayfront Creekside Apartments (BCDC Permit No. 2017.002.00), a 172-unit residential development in the City of Hercules, Contra Costa County, provided public access improvements on areas totaling 0.45 acres of a 2.2-acre site, or 20 percent of the project site.

The proposed Alameda Landing Waterfront project would have approximately 300-400 residential units in total, closest to the unit count of the Blu Harbor Residential Development, and slightly larger than the Signature at the Estuary Residential Development and Hercules Bayfront Creekside Apartments. The Alameda Landing Waterfront project would provide 5.43 acres of public access on a 22.8-acre site, or approximately 24 percent of the total site. This makes the area of public access provided relatively comparable to that of the other projects of its scale shown in Table 1.

Table 1. Public Access Provided in Comparable BCDC-Approved Projects

Project Name	**BCDC Permit No.**	**Number of Residential Units**	**Total Project Area (acres)**	**Public Access Area (acres)**	**Public Access as a Percentage of Total Project Area**
Blu Harbor Residential Development	2014.004	402	13.81	2.55	18%
Signature at the Estuary Residential Development	2003.003	100	4.17	1.31	31%
Hercules Bayfront Creekside Apartments	2017.002	172	2.20	0.45	20%
Alameda Landing Waterfront (Proposed)	2018.004	300-400	22.8	5.43	24%

3. **Sea Level Rise and Flooding.** The Commission's Bay Plan Public Access Policy No. 5 states that "public access should be sited, designed, managed and maintained to avoid significant adverse impacts from sea level rise and shoreline flooding." Policy No. 6 states, in part, "any public access provided as a condition of development should either be required to remain viable in the event of future sea level rise, or equivalent access consistent with the project should be provided nearby." As outlined further in Staff Analysis Section A.2, above, the Bay Plan Climate Change Policies also state that a risk assessment should be prepared by a qualified engineer for larger shoreline projects, based on the estimated 100-year flood elevation that takes into account the best estimates of sea level rise. If a risk assessment determines a project would be vulnerable to flooding that threatens public safety, the project should be designed to be resilient to mid-century sea level rise

projections and—if the project will be in place beyond mid-century—have an adaptation plan for end-of-century sea level rise based on a risk assessment using the best available science.

Within its 100-foot shoreline band jurisdiction, the Commission may deny an application for a permit only on the grounds that the project fails to provide maximum feasible public access, consistent with the project, to the Bay and shoreline. Therefore, the Commission has limited authority regarding sea level rise over most shoreline development. For example, for this and other projects, the Commission does not have the authority to review the residential areas and other private areas on the shoreline, for issues related to seismic safety or potential impacts from future sea level rise. For work in the 100-foot shoreline band, sea level rise resilience and adaptation requirements imposed by the Commission generally pertain to the public access areas. To ensure maximum feasible public access is provided as part of the project, public access must remain safe, available for use, resilient, and if warranted, be adapted as sea level rises over the life of the project.

The subject permit application includes a memorandum prepared by BKF Engineers, dated February 1, 2019, which evaluated the potential for flooding at the project site. This memorandum incorporates sea level rise projections consistent with the low-emissions scenarios found in the recently updated State of California Sea Level Rise Guidance ("2018 State Guidance"). The 2018 State Guidance represents the current best available scientific data found on sea level rise projections. The State Guidance recommends use of probabilistic projections to understand and address potential sea level rise impacts, which associate a likelihood of occurrence with sea level heights and rates tied to a range of emissions scenarios.

a. **Vulnerability of Project Site.** Ground elevations will vary at the project site, meaning that over time, some areas will be more or less vulnerable to flooding during high water levels or storm events.

   The majority of the area within the waterfront park will be at the elevation of the existing wharf structure, or +13.0' NAVD88, as the wharf is not proposed to be raised. On the landward edge of the waterfront park, the project includes elements that will be constructed at a higher elevation. Plantings towards the inland edge of the waterfront park will slope from +13.0' NAVD88 to +14.5' NAVD88, and a pedestrian pathway along the inland edge of the waterfront park will be at +14.0' NAVD88. Approximately 2,700 square feet of hardscape and 3,670 square feet of turf areas usable by the public will be constructed at +13.5' NAVD88, adjacent to raised plantings towards the inland edge of the waterfront park.

   Inland of the wharf structure (and outside required public access areas), the ground elevation varies, with existing grades as low as +8' NAVD88. However, the applicants will place fill to increase the elevation of the residential and retail development inland of the wharf to +15.0' NAVD88, within the Commission's jurisdiction. Residences in the 100-foot shoreline band will have finished floor

elevations at +15.5' NAVD88. Outside of the Commission's jurisdiction, the applicants will place fill to increase the elevation of the residential development, which will slope downwards across the site from +15.0' NAVD88 within the 100-foot shoreline band to approximately +11.5' NAVD88 at the nearest inland surface street (Mitchell Avenue).

The project site is sufficiently elevated to avoid flooding under today's 100-year flood event conditions. According to the Federal Emergency Management Agency ("FEMA"), current Base Flood Elevation (BFE) for the project site is +9.75' NAVD88, or 3.25 feet below the elevation of the wharf deck. BFE is the elevation to which flood waters are anticipated to rise during a 100-year flood event, which has a 1 percent chance of occurrence in any given year.

b. **2018 State Sea Level Rise Guidance.** In analyzing a project's risk of flooding as a result of future sea level rise, the Commission currently relies on the sea level rise estimates provided in the 2018 State of California Sea Level Rise Guidance from the Ocean Protection Council and Natural Resources Agency ("2018 State Guidance"), which represent the best available science. The 2018 State Guidance includes a range of sea level rise projections. One set of projections ("low risk") is appropriate for use in projects where decision-makers can be fairly risk tolerant, in that the project is easily adapted, the consequences of failure are low, and so forth. A low risk aversion planning scenario for this project would be to plan for 2.4 feet of sea level rise by 2100 under a low-emissions scenario (i.e., assuming coordinated global reductions in greenhouse gas emissions) and 3.4 feet under a high-emissions scenario (i.e., "business-as-usual" emissions). Another set of projections (H++ scenario) is designed for project where extreme risk tolerance is called for, because there is little to no adaptive capacity or the consequences of flooding to public health, public safety, or environmental impacts would be great. An extreme risk aversion planning scenario (H++ scenario) for this project would be to plan for 10.2 feet of sea level rise by 2100.

   The analysis in this Application Summary relies on the State's projections for projects where a "medium to high" level of risk aversion is called for. The 2018 State Guidance states that the medium to high risk aversion projections are appropriate to provide "a precautionary protection that can be used for less adaptive, more vulnerable projects or populations that will experience medium to high consequences as a result of underestimating sea-level rise (e.g. coastal housing development)."

   The medium to high risk projections are chosen such that the likelihood that sea-level rise will meet or exceed the projections is low (though they may underestimate the potential for extreme sea level rise). The following analysis therefore anticipates that 1.9 feet of sea level rise will occur at 2050. After 2050, if global green house emissions are curbed consistent with the United Nations Framework Convention on Climate Change (UNFCCC) 2015 Paris Agreement—a

"low-emissions" scenario—5.7 feet of sea level rise is anticipated to occur at 2100. If global emissions are not aggressive reduced and a "business-as-usual" scenario occurs—a "high-emissions" scenario—6.9 feet of sea level rise is anticipated to occur at 2100.

The medium to high risk aversion scenario is appropriate in analyzing this project in part because the shoreline public access that is to be required as a condition of development has relatively limited ability to be relocated to an upland location in the future, as the adjacent residential development is located within 10 feet of the boundary of the waterfront park. While the project provides public access areas outside of the waterfront park on the wharf (e.g., the Western Greenway), the area on the wharf constitutes the majority of public access area provided by the project. Additionally, the wharf upon which much of the waterfront park is constructed is not easily adapted. The applicants indicate that extensive retrofit work would be required to raise the grade of the wharf deck and that this option is neither feasible, nor would it be pursued in the future.

Employing the medium-to-high risk scenario at the project site, where the Mean Higher High Water (MHHW) Level is +6.28' NAVD88, the following water levels would be planned for:

- At 2050, with an anticipated rise in sea levels of 23 inches (1.9 feet), the MHHW level would be +8.18' NAVD88. The water levels during a 100-year (1 percent likelihood) storm, would be +11.65' NAVD88.
- At 2100, assuming a low-emissions scenario, with an anticipated rise in sea levels of approximately 68 inches (5.7 feet), the MHHW level would be +11.98' NAVD88. The water levels during a 100-year (1 percent likelihood) storm, would be +15.45' NAVD88.
- At 2100, assuming a high-emissions scenario, with an anticipated rise in sea levels of approximately 83 inches (6.9 feet), the MHHW level would be +13.18' NAVD88. The water levels during a 100-year (1 percent likelihood) storm, would be +16.65' NAVD88.

c. **Resilience to Mid-Century Sea Level Rise.** Planning for 1.9 feet of sea level rise by 2050, the project is not anticipated to experience flooding from sea level rise at mid-century, even during a 100-year storm event. The elevation of the wharf structure is approximately 1.35 feet higher (at +13.0' NAVD88) than the projected water level at 2050 (+11.65' NAVD88) during a 100-year storm event with anticipated sea level rise. The in-water dock system is floating, and can rise with increasing water levels. Thus, the public access provided as part of the project is anticipated to be resilient to mid-century sea level rise based on the best available scientific data.

d. **Public Access Viability to SLR Flooding.** At the end of the century (2100), portions of the project site are anticipated to be subject to occasional flooding, during periods of higher tides and during extreme storm events. This is the case regardless of whether a low-emissions scenario (5.7 feet of sea level rise) or a high-emissions scenario (6.9 feet of sea level rise) occurs.

At +15.0' NAVD88, the proposed residential area within the 100-foot shoreline band could be flooded by the end of the century during a 100-year flood event under a low-emissions scenario and during a 5-year flood event under a high-emissions scenario. The residential areas would not be flooded on a daily or regular basis by 2100. As noted above, however, the Commission's consideration is for the viability and adaptability of the required public access with sea level rise.

The waterfront park components sited on the existing concrete wharf, including the plaza and promenade, could be flooded in a 100-year flood event starting at approximately 2080 under a low-emissions scenario, or at approximately 2070 under a high-emissions scenario. By 2100, these same areas—which represent the majority of the public access provided as part of the project—could be flooded during King Tides (1-year storm event) and greater flood events under a low-emissions scenario, but would not flood at Mean Higher High Water (MHHW). Under a high-emissions scenario, the waterfront park components at the wharf deck elevation could become flooded at MHHW.

Under the low-emissions scenario at 2100, the waterfront park could be flooded by approximately 2.9 inches of water during a King Tide and 2.3 feet (28 inches) of water during a 100-year storm event. The applicants estimate that the waterfront park components on the existing wharf could be impacted by approximately 33 tides per year at the end of the century. Impacts include periodic and limited flooding over portions of the plaza and promenade. The applicants indicate that during periods of flooding, the flooded public access could be closed. Because the majority of the waterfront park will be at the elevation of the existing wharf structure, Commission staff analysis indicates that this flooding and closure could affect the majority of the waterfront park.

There are several components of the waterfront park which are elevated above the wharf deck, and thus have a somewhat reduced risk of flooding compared to the wharf. Approximately 6,370 square feet of the wharf hardscape and turf areas (roughly 3.2 percent of the total waterfront park) would be elevated to +13.5' NAVD88 and would be usable by the public. These areas would not flood with King Tides (1-year flood event) in 2100 under a low-emissions scenario, but could flood starting with a 2-year flood event. Under a high-emissions scenario, these areas could also flood under King Tide conditions.

A 7-foot-wide pathway along the inland edge of the waterfront park, adjacent to the residential development within the shoreline band, is intended to provide a public access connection along the shoreline in the event that the wharf is

flooded. This pathway will be at 14.0' NAVD88. Under the low-emissions scenario, the pathway could begin flooding at 2090 in a 100-year storm event, and then could flood in a 10-year storm event by 2100. Under the high-emissions scenario, the pathway could flood with a 100-year storm starting in 2080, and could flood with King Tides in 2100.

Plantings within the waterfront park (the majority of the approximately 42,000-47,000 square feet of plantings, which in total are roughly 22 percent of the total waterfront park) would be constructed in raised beds that would be elevated to 14.5' NAVD88 where contained by planter walls. These plantings, which would not be available for the public to walk through, could be flooded in a 10-year storm event by 2100 under a low emissions scenario. A portion of the planting areas would be constructed at existing grade.

e. **Public Access Adaptive Capacity.** Bay Plan policies on Public Access state: "Any public access provided as a condition of development should either be required to remain viable in the event of future sea level rise or flooding, or equivalent access consistent with the project should be provided nearby." The 2018 State Guidance states that, "Decisions about which sea-level rise projections to select – and the necessary adaptation pathways and contingency plans to ensure resilience – will be based on factors including location, lifespan of the given project or asset, sea-level rise exposure and associated impacts, adaptive capacity, and risk tolerance/aversion."

   For the reasons discussed in the section above, this analysis employs the 2018 State Guidance's medium to high risk projections for sea level rise. Under these projections, large sections of the public access provided by the project are anticipated to flood during certain tide and storm events. Some public access provided by the project would be sited upland and at the elevation of the residential development, including the Western Greenway and two pocket parks. However, as discussed above, in extreme storm events at the end of the century, the entirety of the waterfront park could be subject to occasional flooding.

   The Commission considers the adaptive capacity of the project—that is, the measures that could be employed in the future to ensure public access remains viable, or that alternative equivalent access could be provided nearby (e.g., such as through "managed retreat" that would provide for shoreline access in a different location than today but along the future shoreline). Certain aspects of this project provide limitations on the adaptive capacity of the project, including (1) the cost involved in raising the existing wharf deck, and (2) the proximity of the residential development to the waterfront park, reducing the area within which a "managed retreat" strategy for public access could be employed.

   The applicants have indicated that it would be cost-prohibitive to raise the existing wharf deck to address end-of-century flooding from sea level rise, as anticipated by the 2018 State Guidance for medium to high risk projects. The wharf deck loading is also such that weight constraints cause substantial

difficulties in adding material on top of the wharf deck to raise the elevation of the waterfront park. The applicants indicate that retrofitting the wharf to either increase the deck height or allow for additional loading would be both more challenging and more expensive than a wholesale removal and replacement of the wharf structure, due to close spacing of existing piles and work around existing riprap and buried electrical lines. Given the mass of the wharf deck, reconstructing a new deck would likely require lowering the deck closer to the water to withstand lateral forces and loading for seismic safety, which would be counter to increasing the height of the deck to address sea level rise. The applicants also indicate that demolition or replacement of the wharf structure would be financially infeasible. The applicants state that the work proposed as part of this project is feasible, in part, because the portion of the wharf with the highest removal or replacement costs will remain in the Bay and will be integrated into the final design. Therefore, the applicants believe the project is limited in terms of large-scale adaptive responses to sea level rise that would involve changes to the wharf structure.

The area within which the shoreline public access could retreat over time as sea levels rise is limited by the design of the proposed location and extent of the residential development provided as part of this project. Residential units are to be located approximately 10 feet inland of the landward boundary of the waterfront park. Because of the siting of the residential development, there is limited physical space within which upland public access could be provided that would be available during events at the end of century when flooding is anticipated to occur. Therefore, while upland public access spaces will be provided, including the Western Greenway and two pocket parks that will be constructed at +15.0' NAVD88 (the elevation of the adjacent residential development), the 7-foot-wide path at the back of the park that could provide a continuous shoreline connection connecting the inland public access areas would flood when storm waters reached approximately +14.0' NAVD88 unless future adaptive measures are employed, such as raising the path or constructing a barrier Bayward of the path.

f. **Proposed Adaptation Measures.** The applicants have proposed the following measures that would be implemented as part of the initial project construction, and which could facilitate future adaptive measures (Exhibit G):

   i. *Elevated Pathway.* The 7-foot-wide pathway along the inland edge of the waterfront park would be constructed to +14.0' NAVD88, 1 foot higher than the wharf deck. This would provide for a more resilient shoreline path at the back edge of the waterfront park that could remain functional during certain tidal and storm-driven conditions when the lower-lying portions of the park would flood.

   ii. *Seatwall Flood Barrier.* An 18-inch-high seat wall would be constructed along the Bayward edge of the 7-foot-wide pathway adjacent to the plantings. The seatwall could act as a flood barrier to protect the elevated

pathway against an additional 18 inches of water (+15.5' NAVD88) with modifications. In the interim, it would include breaks in the wall aligning with the ends of each planting area to allow for circulation between the pathway and the rest of the waterfront park on the wharf deck.

iii. *Foundations for a Flood Barrier.* A below-grade footing with a keyway for a future low wall would be constructed along the back edge of the plaza pergola's southern radius, and extending eastward to the wharf's east edge at the property line. In the future, a wall constructed at this location would prevent flooding of the area landward of the foundation against an additional 12 inches of water (+15.0' NAVD88).

Analysis of Applicants' Proposed Measures. The 7-foot-wide elevated pathway, while a foot higher than the wharf deck, could flood in a 10-year storm event by 2100, under the low-emissions scenario, and could flood with King Tides in 2100, under the high-emissions scenario, as discussed above. However, in combination with the conversion of the adjacent seatwall into a flood barrier in the future, the pathway could be protected against flooding at +15.5' NAVD88. This could be accomplished by filling in the breaks in the seatwall to create a continuous top-of-wall condition at +15.5' NAVD88, and adding pathway ramping to maintain ADA-compliant access to the waterfront park. With a continuous wall at +15.5' NAVD88, the pathway would not flood in a 100-year storm event at 2100 under the low-emissions scenario, and could flood beginning with a 25-year storm event at 2100 under the high-emissions scenario. This would provide protection for the shoreline path (which connects to the pocket parks and Western Greenway public access areas) against the same level of flooding as the adjacent residential development within the 100-foot shoreline band (with finished floor elevations of +15.5' NAVD88).

The applicants further propose to construct a keyway footing foundation for a low wall that could be constructed in the future along the southern edge of the plaza area, at the plaza pergola and extending eastward to the wharf's east edge, creating a top-of-wall condition at approximately 15.0' NAVD88. Such a future adaptation would also require adding ramping to maintain ADA-compliant access connecting the two portions of the plaza and promenade areas on either side of the wall. This response would reduce flooding risk to the inland portion of the public plaza. With a continuous wall at 15.0' NAVD88, the inland portion of the plaza could flood in a 100-year storm event at 2100 under the low-emissions scenario, and could flood beginning with a 5-year storm event at 2100 under the high-emissions scenario. As with the seatwall adaptation measure discussed above, this measure would provide protection for a portion of the public plaza against a similar level of flooding as the adjacent residential development (with foundations at 15.0' NAVD88).

The proposed effect of constructing a continuous barrier would be to create a continuous—though far narrower (as small as 7-feet-wide)—shoreline public access path Bayward of the residential development that would remain usable

during all but the most extreme anticipated scenarios at the end of the century. The public would also have access to a portion of the waterfront plaza. Finally, the public would have access to inland areas including the Western Greenway and two pocket parks.

In addition to the seatwall along the edge of the 7-foot-wide pathway and the future low wall across the waterfront plaza area, the applicants propose that future adaptation would include: (1) Implementing a public notification system with signage and closures when areas of the public access (e.g., the wharf deck) flood; and (2) Installing venting portals through the wharf deck that would provide a pathway for potential trapped air pockets from rising tides and wave action. Signage and closures would prevent the public from accessing the wharf deck under unsafe flooding conditions. The venting portals would help relieve pressure and maintain structural safety of the wharf with sea level rise.

Alternative Alignments for a Flood Barrier. While not currently proposed by the applicants, in discussion with Commission staff, the applicants indicate that a low wall could potentially be constructed around the perimeter of the wharf deck in the future, in lieu of walls constructed further back on the wharf deck adjacent to the shoreline path and the inland portion of the waterfront plaza area. Such an approach could provide greater flooding resilience for a large portion (and perhaps the entirety) of the waterfront park constructed on the existing wharf deck. However, the applicants indicate that there are constraints that would need to be addressed in order to implement such an approach. One challenge is presented by the presence of a break in the wharf deck that runs perpendicular to the wharf edge to serve as a seismic joint. As the wharf joint could not be filled without threatening the structural integrity of the wharf during a seismic event, a wall would need to run around both edges of the wharf joint to provide continuous protection. Such a wall would bisect the wharf deck and impact the use of the public access area. Another challenge is that the wharf deck is susceptible to flooding on both its eastern and western edges, and therefore a flood barrier would need to be constructed not only along the Bayward edge of the park, but along its eastern and western perimeter.

4. **Barrier-Free Access.** Bay Plan Public Access Policy No. 7 states, in part: "Public access improvements provided as a condition of any approval…should permit barrier free access for persons with disabilities to the maximum feasible extent."

   The waterfront promenade and plaza will have level surfaces and will be universally accessible. Two ADA public parking spaces will also be provided. Additionally, the gangway and dock system will be ADA-accessible, including the kayak launch. The application notes that: "The dock system will provide barrier free access for persons with disabilities to water-oriented recreational facilities in the Bay Area."

5. **Operations and Maintenance.** Bay Plan Public Access Policy No. 7 states, in part: "Public access improvements provided as a condition of any approval…should include an ongoing maintenance program."

Catellus Alameda Development LLC will develop the public access improvements, including the waterfront plaza and promenade, which the City of Alameda will own, operate, and maintain. The residential and commercial portions of the site will be built out by a vertical developer, and operated and maintained through a Municipal Services District (MSD). The MSD will contribute funds to the ongoing maintenance of the public access, including the wharf structure underlying the waterfront park.

6. **Residential Development and Development Controls.** The project involves construction of residential units that face onto a waterfront park. While the Commission's design guidelines encourage development that takes full potential of its shoreline setting, when residential uses and public access areas are built in close proximity, the design must be carefully considered in order to ensure that public areas still "feel public" and operate in such a way that no actual or perceived barriers to use of the space by members of the public will exist. In order to ensure that the residential development is constructed to minimize impacts to the public's experience of the waterfront park and views of the Bay, in keeping with the recommendations of the Design Review Board, a series of development parameters are defined in the authorization for the residential development to be constructed within the Commission's jurisdiction. These controls require the following: residential buildings must be set back a minimum of 100 feet from the edge of the wharf deck and 10 feet back from the sidewalk that defines the back edge of the waterfront park, with limited minor encroachments allowed (e.g., roof overhangs); pedestrian connections to the shoreline must be provided through the neighborhood; primary entrances to the residential units must face the waterfront park and not the inland side of the building; buildings may not exceed a maximum roof height of 60 feet to avoid overwhelming the adjacent park area; substantial fences and decks on the Bayward (waterfront park) side of the housing units are prohibited; within the area of residential units, the exact configuration of which may change somewhat from the plans shown on Exhibit C, the two pocket parks and five view corridors proposed as part of the application are to be provided; and the landscaped area that would create the interface between the residential buildings and the waterfront park should be completed at the time of construction of the waterfront park.

The Commission should determine whether the project is consistent with the McAteer-Petris Act laws and Bay Plan policies on Public Access.

C. **Recreation.** Bay Plan Recreation Policy No. 1 states, in part: "Diverse and accessible water-oriented recreational facilities, such as launch ramps, beaches, and fishing piers, should be provided to meet the needs of a growing and diversifying population, and should be well distributed around the Bay and improved to accommodate a broad range of water-oriented recreational activities for people of all races, cultures, ages and income levels…"

Bay Plan Recreation Policy No. 4 speaks to facilities that should be provided in waterfront parks, such as the proposed waterfront park that would be constructed as part of this project. The policy states: "Where possible, parks should provide…docking

and picnic facilities for boaters…. Recreational facilities that do not need a waterfront location, e.g., golf courses and playing fields, should generally be placed inland, but may be permitted in shoreline parks if they are part of a park complex that is primarily devoted to water-oriented uses, or are designed to provide for passive use and enjoyment of the Bay when not being used for sports…. Public launching facilities for a variety of boats and other water-oriented recreational craft, such as kayaks, canoes and sailboards, should be provided in waterfront parks where feasible…. Trails that can be used as components of the San Francisco Bay Trail…should be developed in waterfront parks. San Francisco Bay Trail segments should be located near the shoreline unless that alignment would have significant adverse effects on Bay resources… Bus stops, kiosks and other facilities to accommodate public transit should be provided in waterfront parks to the maximum extent feasible. Public parking should be provided in a manner that does not diminish the park-like character of the site. Traffic demand management strategies and alternative transportation systems should be developed where appropriate to minimize the need for large parking lots and to ensure parking for recreation uses is sufficient…. Interpretive information describing natural, historical and cultural resources should be provided in waterfront parks where feasible…."

"Signs and other information regarding shipping lanes, ferry routes, U.S. Coast Guard rules for navigation, …weather, tide, current and wind hazards…and safety guidelines for smaller recreational craft, should be provided at…boat ramps, launch areas…and other recreational watercraft use areas."

The proposed project would provide new public access to the Bay, through the construction of a waterfront park and greenway. The project would provide amenities for walking, running, cycling, picnic facilities, kayak launching, a public dock, and historical education and interpretation, in line with the Bay Plan policies for waterfront parks. The project includes an extension of the San Francisco Bay Trail along the entire waterfront of the site, connecting with an existing shoreline trail to the east and surface streets to the south. Bicycle racks would be provided at the site, which would encourage alternative transportation to the site, in conjunction with the extension of the Bay Trail. Public parking would be provided on site near the AMP substation, a location that is not immediately adjacent to the water and does not segment the promenade or plaza areas, but would also provide for kayak drop-off and ADA-accessible parking spaces that are closer to the promenade and plaza than the remainder of the parking. A comprehensive signage plan would be incorporated into the waterfront park, including wayfinding, Bay Trail, interpretive, regulatory, and park naming signage.

The Commission should determine whether the proposed project is consistent with Bay Plan policies on Recreation.

D. **Appearance, Design, and Scenic Views.** The Bay Plan Appearance, Design, and Scenic Views policies state, in part, that "all bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay" and that "[m]aximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas…" Furthermore, "[s]tructures and facilities that do not take advantage or complement the Bay should be located and designed so as not to impact

visually on the Bay and shoreline. In particular, parking areas should be located away from the shoreline…." The policies also state that "[s]horeline developments should be built in clusters, leaving areas open around then to permit more frequent views of the Bay…" and that "Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water."

The proposed Alameda Landing Waterfront project residential development would include a network of new internal streets that lead to the shoreline, delineating clusters of housing units. Thus, while the proposed project would result in the construction of residential and commercial buildings, views of the Bay from Mitchell Avenue—the nearest existing public street inland of the project site—would still be provided. To ensure that views of the Bay are preserved, the project would also establish five view corridors, including: (1) a 75-foot-wide view corridor in line with Fifth Street, which is designed to create an axial public view along Fifth Street in Alameda to Jack London Square and up Broadway across the Estuary in Oakland; (2) a 50-foot-wide view corridor along the western edge of the property, in line with the Western Greenway; (3) a 40-foot-wide east-west view corridor along an internal vehicular street, which would provide views of the Bay and maritime uses on the adjacent property to the west; and (4) two 40-foot-wide north-south view corridors in line with internal streets through the residential neighborhood. The layout of the residential development has not yet been finalized within its overall footprint. As such, the two north-south view corridor locations would be subject to change in the final residential development plan.

The Commission should determine whether the project is consistent with Bay Plan policies on Appearance, Design, and Scenic Views.

E. **Review Boards**

1. **Engineering Criteria Review Board.** The proposed project was first reviewed by the Commission's Engineering Criteria Review Board (ECRB) on March 21, 2017 for seismic and engineering design safety related to the historic wharf. At that time, the original project consisted of a 40-acre development that would have included residential units, retail, office space, a hotel, a warehouse, and shoreline access. In summer 2017, Catellus Alameda Development, LLC reached an agreement with the City of Alameda to maintain the western portion of the wharf for maritime-industrial uses, and the project was reduced in scope to include only the 22.8-acre subject parcel. The revised project was reviewed by the ECRB on September 26, 2018, and again on November 13, 2018.

   At its September 26, 2018 meeting, the ECRB reviewed the engineering criteria for the safety of the historic wharf and adjacent soil improvements. The ECRB had questions, in part, on the removal of a portion of the wharf, pile damage and restoration, wave passage effects on the wharf structure, wharf joints and displacements, criteria for sea level rise and flooding, the project design stage, and slope stability analysis. The ECRB recommended seismic instrumentation at both ends of the wharf structure, and generally concurred with the applicants that major

retrofits did not appear to be needed to meet the structural criteria and that pile repairs appeared to be appropriate over a longer time frame rather than being necessary before public use of the wharf.

The ECRB requested that the project sponsors provide the following to address the Board's remaining questions and concerns: (1) Develop estimates of relative displacements induced by wave passage effect and determine if seismic joint criteria are consistent with anticipated wave-passage displacements; (2) Augment three component seismic instrumentation with additional instruments; (3) Introduce new notation to refer to average shear velocities in bedrock; (4) Provide a Deep Soil Mix (DSM) plan that explains installation and performance criteria to minimize potential lateral movement of underlying bay mud; (5) Provide criteria for minimization of potential environmental impacts of DSM and fill emplacement on additional material moving into the Bay; (6) Identify sea level inundation zone and associated criteria for the wharf; and (7) Provide criteria for characteristics of fill to be added landward of the wharf, including that of cellular concrete and its buoyancy potential if inundated by water.

In response to the ECRB's comments, the applicants prepared and submitted statements to the ECRB from the project's engineers, including Atlas Geotechnical, Langan, Simpson Gumpertz & Heger, Inc., Advanced Geotechnical Solutions, Inc., SGH, and BKF. The ECRB reviewed these statements at their November 13, 2018 meeting. The ECRB accepted the responses of the applicants, and indicated that Catellus was following appropriate criteria for the safety of the wharf, including with anticipated sea level rise.

2. **Design Review Board.** The proposed Alameda Landing Waterfront project was reviewed by the Commission's Design Review Board (DRB) on July 9, 2018 and on October 15, 2018. At its first review, the DRB expressed the need for additional information regarding the residential development design in order to provide guidance on the design of the public access components. The DRB's recommendations focused, in part, on:

   - Making the interface of the residential units and public access areas feel public, such as through shifting building entrances back and creating transition zones;
   - Providing stronger connections through the site, including additional opportunities for view corridors, adding permeability to the design of the residential development, and ensuring the Western Greenway functions as a welcoming public space;
   - Creating design elements to help the space feel more public, such as a more architectural solution around the perimeter of the AMP substation, separating residential parking from view of the park, and siting retail with proximity and connectivity along the shoreline;

- Addressing concerns related to plantings on the wharf deck, including providing plantings in solid ground where possible, moving trees away from buildings, and minimizing the amount of plantings on the wharf deck; and
- Better addressing the resilience and adaptability of the public access to sea level rise.

On October 15, 2018, the DRB reviewed a revised project proposal, including two conceptual residential development plan alternatives. The DRB focused their further recommendations, in part, on:

- Reinforcing connections through the site to the water, including design elements to communicate to the public what is public versus private, aligning streets and view corridors, addressing the offset of the roundabout from the Fifth Street view corridor, including trees along the view corridors to assist with scale and preserving view lines next to the potential future bridge, and establishing clear site circulation for cars, bikes, and pedestrians;
- Addressing concerns related to plantings, including the survivability and usability of plantings in planter boxes, allowing for more green areas, using live turf, and creating better transitions between the deck and plantings;
- Making the waterfront promenade, plaza, and other public access areas more welcoming to and usable by the public, including through adjusting the proportions of the promenade and plaza designs and providing protection from the elements; and
- Demonstrating that the project has capacity to adapt to end-of-century sea level rise and developing a plan for adaptation.

In response to the DRB's October 15, 2018 comments, the applicants indicate that they have developed an alternative planting layout with an increase in planting areas, with viability to be determined based on dead-load weight analysis. The applicants have also added design elements such as planters, benches, and a gathering space; tightened the radius of the plaza arc and adjusted the pergola size; simplified paving patterns at the plaza entry from Fifth Street to address concerns related to the roundabout; and modified the plaza paving to address DRB comments.

F. **Environmental Review.** On December 5, 2006, the City of Alameda, as the lead agency, certified the Final Environmental Impact Report for the Alameda Landing Waterfront Mixed Use Development Project, which was a supplemental environmental document to the 2000 Catellus Mixed Use Development Project EIR. On July 18, 2017, the City of Alameda approved an Environmental Assessment of the Bayport/Alameda Landing Waterfront Master Plan Amendment.

G. **Relevant Portions of the McAteer-Petris Act**

1. Section 66602
2. Section 66605
3. Section 66632

H. **Relevant Portions of the San Francisco Bay Plan**

1. *San Francisco Bay Plan* Policies on Public Access
2. *San Francisco Bay Plan* Policies on Climate Change
3. *San Francisco Bay Plan* Policies on Safety of Fill
4. *San Francisco Bay Plan* Policies on Recreation
5. *San Francisco Bay Plan* Policies on Appearance, Design and Scenic Views
6. *San Francisco Bay Plan* Policies on Fish, Other Aquatic Organisms, and Wildlife
7. *San Francisco Bay Plan* Policies on Water Quality
8. *San Francisco Bay Plan* Policies on Water Surface Area and Volume

Exhibits

A. **Regional Map**
B. **Project Vicinity Map**
C. **Proposed Site Plan**
D. **Waterfront Park Components (1)**
E. **Waterfront Park Components (2)**
F. **Phasing Diagram**
G. **Proposed Sea Level Rise Adaptation Plan**